23.1 Dimensional Structural Lumber and Piling - General

The Department no longer supplies dimensional structural lumber and round timber piles. The Contractor supplies all materials thus assuming responsibility to ensure that dimensional structural lumber and round timber piles purchased have been subjected to the independent inspection processes in accordance with applicable standards and material specifications.

The Bridge Inspector is responsible for quality assurance and providing inspection of lumber/timber materials and work at site.

23.2 Standards

The Bridge Inspector should be familiar with the following applicable standards:

- National Lumber Grading Authority (NLGA) – 1999 Standard Grading Rules for Canadian Lumber
- CAN/CSA 0141-91 – Softwood Lumber
- CSA-080-97 Wood Preservation
- CSA-080.2-97 Preservative Treatment of Lumber, Bridge Ties, and Mine Ties by Pressure Process
- CSA-080.3-97 Preservative Treatment of Piles by Pressure Process
- American Wood Preservers Association (AWPA) Standards - C1, C2, M4, and Supplementary Requirements to M4.

23.3 Material

The Bridge Inspector should be familiar with the following material specifications:

- Planking (Strip Deck) - Species Group HEM-FIR conforming to stress grade “No. 1 Structural Joists and Planks”, 20% conforming to stress grade No. 2 of each size length supplied.
- Sheeting, Retainers, Nailers and S1S1E Subdeck – Coast Douglas Fir or Pacific Coast Hemlock species conforming to stress grade “No. 1 Structural Joists and Planks”, 15% conforming to stress grade No. 2.
- Rough Caps - Coast Douglas Fir species conforming to stress grade “Structural Posts and Timbers”.

- Framed Subcaps - Coast Douglas Fir species conforming to stress grade "Structural Posts and Timbers".

- Wheel Guards are Coast Douglas Fir or Pacific Coast Hemlock species conforming to stress grade "No. 1 Structural Beams and Stringers", 15% of BM conforming to stress grade No. 2.

- Rough Stringers - Coast Douglas Fir species conforming to stress grade "Selected Structural Beams and Stringers".

- Struts and Handrails Posts - Coast Douglas Fir or Pacific Coast Hemlock species conforming to stress grade "Select Structural Posts and Timbers".

- S1S1E Cleats - Coast Douglas Fir or Pacific Coast Hemlock species conforming to stress grade "No. 2 Structural Joists and Planks".

- Railings - Coast Douglas Fir or Pacific Coast Hemlock species conforming to stress grade "No. 1 Structural Joists and Planks".

- Pilings are to be cut from sound trees of Douglas Fir or Pine.
  - Piling lengths are 6.1 m, 12.2 m and 18.3 m.
  - Corresponding tip diameters are 230 mm, 205 mm and 180 mm +/- 12 mm.
  - Corresponding butt diameters are 305 mm, 305 mm and 330 mm +/- 12 mm but 405 mm maximum.
  - Sapwood thickness is to be 12 mm but not less than 10 mm.
  - Knots that are loose show signs of decay or clustered are defects and cause for rejection.
  - Pile straightness is to be less than 4% of the length of bend or 65 mm.
  - Pitch streaks that extend through the length of pile is cause for rejection.

23.4 Inspection

The supplier is responsible to provide for inspection of the material by an independent inspector who is qualified and has a minimum of 10 years of experience for this type of inspection. All material shall be inspected prior to and after the treatment. All material shall be stamped by the inspector identifying the inspection date and that the material meets or exceeds the required specifications. The stamp shall be placed at the end of each member in a location that is clearly visible even when the material is in a large stockpile.

23.5 Acceptance

- All material shall be subject to inspection by the Bridge Inspector prior to usage.

- Where S1S1E or S4S Size is specified the material shall be not more than 6 mm scant per side.

- When for example 15% “No. 1” or 15% “No. 2” grade is allowed, this shall mean 85% must be the specified grade and not more than 5% of the 15% below “No. 1” or 15% “No. 2” grade or there will be grounds for reinspection.

23.6 Checklist

23.6.1 Bridge Inspector’s Responsibilities

- Review and familiar with applicable standards/specifications and drawings.

- Ensure lumber/timber delivered to site meets specifications.

- Inspect “Certificate of Compliance” from supplier

- Reject defective material or not meeting applicable specifications.

- Initiate payment when work is acceptably completed.